

THE SIPRO P.7 PRE-MOCK - 2024

MATHEMATICS

Time Allowed: 2 Hours 30 Minutes

Index No.	Random No.	Personal No.

Candidate's Name: _____

Candidate's signature: _____

School Random No.: _____

District ID: _____

**READ THE FOLLOWING INSTRUCTIONS
CAREFULLY:**

1. This paper has two sections: A and B.
2. Section A has 20 questions (40 Marks).
3. Section B has 12 questions (60 Marks).
4. Attempt all questions in both sections. All answers to both sections A and B must be written in the spaces provided.
5. All answers must be written in blue or black ball point pens or ink. Only diagrams and graph work must be done in pencil.
6. Unnecessary alteration of work will lead to loss of marks.
7. Any handwriting that cannot be easily read may lead to loss of marks.
8. Do not fill anything in the boxes indicated: "FOR EXAMINER'S USE ONLY"

For Examiner's Use Only;

Qn No	MARKS	INITIALS
1- 5		
6 -10		
11-15		
16 -20		
21-22		
23 -24		
25-26		
27-28		
29 -30		
31-32		
Total		

Please turn over

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SECTION A: 40 MARKS

Attempt all questions in this section
Questions 1 to 20 carry two marks each

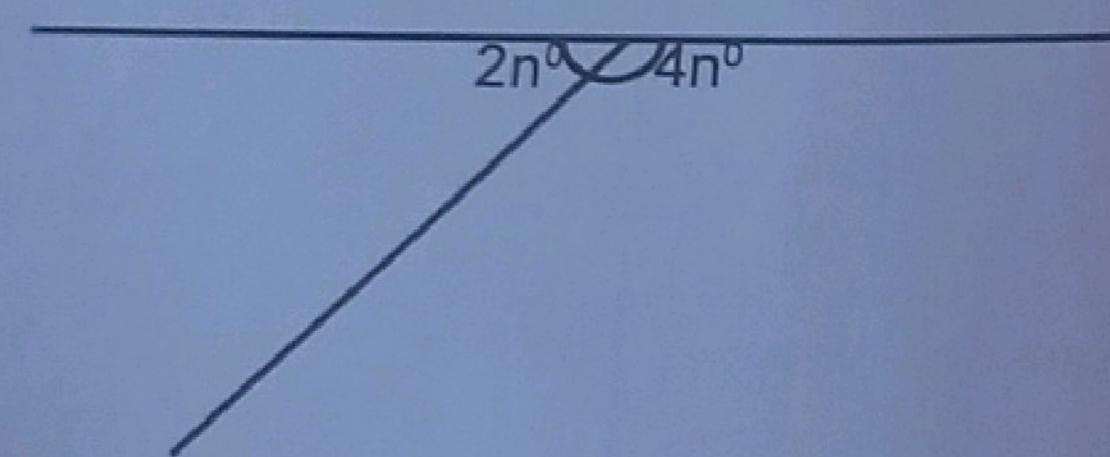
1. Work out: $30 \div 10 =$

2. Given that set $R = \{\text{composite numbers between 0 and 10}\}$. Find $n(R)$

3. Express "Sixty thousand, seven" in numerals.

4. Simplify: $2a^2 + 3b^2 + -4b^2 + a^2$

5. In the figure below, find the value of n in degrees.



6. Simplify: $9 - 6$



7. The probability of picking a blue pencil from a bag containing blue and black pencils is $\frac{4}{7}$. The bag contains 28 pencils. Find the number of blue pencils in the bag.

8. Express 25cm as a fraction of 2 metres.

9. How many lines of folding symmetry has an equilateral triangle?

10. Given that set $P = \{P.7 \text{ candidates with five heads each}\}$; Find the number of subsets that can be obtained from set P .

11. Work out:	weeks	days
	7	3
	-2	5

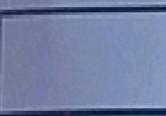
12. Find the Lowest Common Factor (LCF) of 12 and 16.



13. Add: $2 + 3 =$ (finite 5)

14. Solve for r : $3 - 2(r - 4) = 3$

15. With the help of a ruler, a pencil and a pair of compasses only, construct an angle of 45° in the space provided below.



16. The digits 4, 0 and 5 are used to form 3-digit numerals. Work out the difference between the largest and smallest numerals formed.

17. Work out: $\frac{3}{8} + \frac{2}{3}$

18. The base area of a cylinder is 154cm^2 . Work out its radius. Take $\pi = \frac{22}{7}$



19. Express 2,307 in scientific notation.

20. A school bursar withdrew 55 notes of five thousand shillings numbered consecutively from AF057485. Find the registration number of the last note.

SECTION B: 60 MARKS

Attempt all questions in this section.

Marks for each part of the question are indicated in the brackets.

21. Amina went shopping and bought the following items;

2kg of salt at sh. 1,500 each kilogramme.

3 litres of cooking oil at sh. 6,000 per litre.

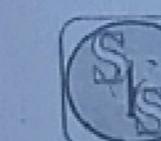
1 kg of sugar at sh. 4,000 per 1kg.

2

2 bars of soap at sh. 10,000.

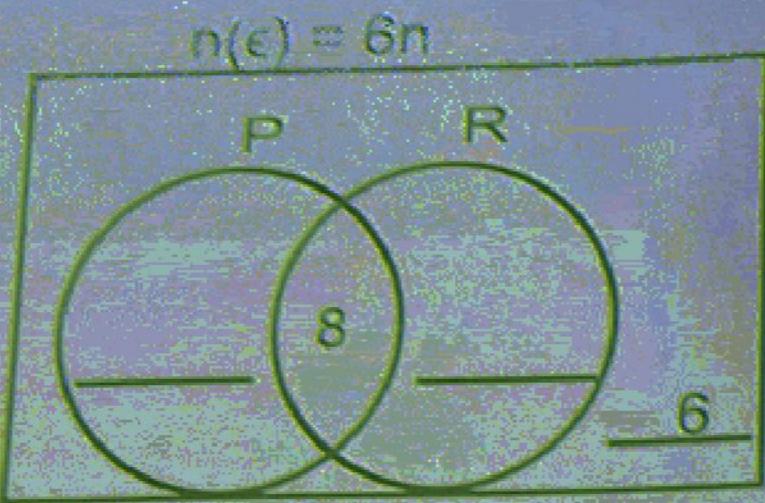
(a) How much did she pay for all the items?

(04 marks)



(b) Calculate Amina's change if she went with a fifty thousand shilling note. (02 marks)

22. In a class of $6n$ pupils, 22 enjoy posho (P) only, 8 enjoy both posho and rice, $2n + 8$ enjoy rice (R) while 6 pupils do not enjoy any of the foodstuffs.



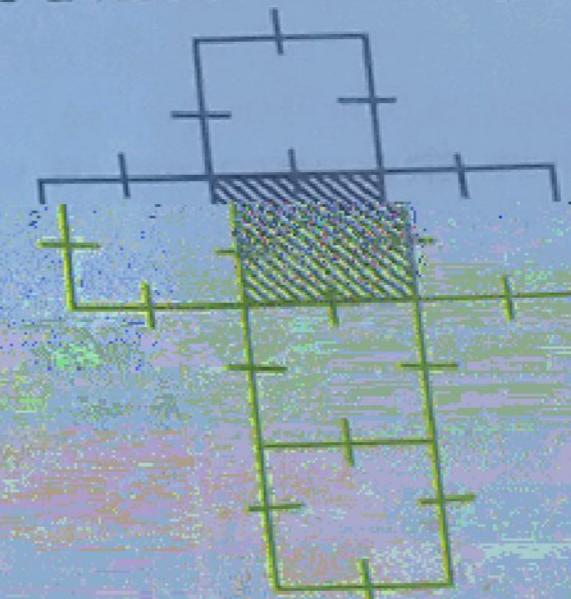
(a) Find the value of n . (03 marks)

(b) How many pupils do not enjoy posho? (02 marks)

23. (a) Work out: $1011_{\text{two}} - 111_{\text{two}}$ (02 marks)

(b) Given that; $f_4_{\text{nine}} = 42_{\text{five}}$. Find the value of f . (03 marks)

24. The figure below shows a net of a solid figure.



(a) If the area of the shaded face is 81 dm^2 . Calculate the length of each side. (02 marks)

(b) Find the total surface area of the solid formed. (02 marks)

(c) Calculate the volume of the solid. (02 marks)



25. Using a ruler, a pencil and a pair of compasses only, construct a regular hexagon of sides 3.6cm. (04 marks)

26. The graph below shows the number of watches sold in four days in a week by a trader. (03marks)

a) Complete the table.

Day	Pictures	Number of watches
Monday	_____	45
Tuesday		_____
Wednesday		54
Thursday		_____

b) Work out the total number of watches sold in the four days. (02 marks)

27. Three people; Kato, Odeke and Tumushabe were told to report to police at intervals of 25 minutes, 30 minutes and 40 minutes respectively. If they reported together for the second time at 5: 42 pm, at what time did they first report together at the same time? (05 marks)

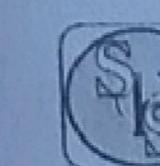
28. Acham deposited sh. 800,000 in a commercial bank which offers an interest rate of 5% per annum.

a) Calculate the interest gained after a period of 18 months. (03 marks)

b) How much amount would she have after the above period?(02marks)

29. In a school, 25% of the pupils wear Blue sports wear, 50% of them wear Red sports wear while the rest wear Yellow sports wear. Using a radius of 3.0cm, draw an accurate circle graph to show the above information. (05 marks)

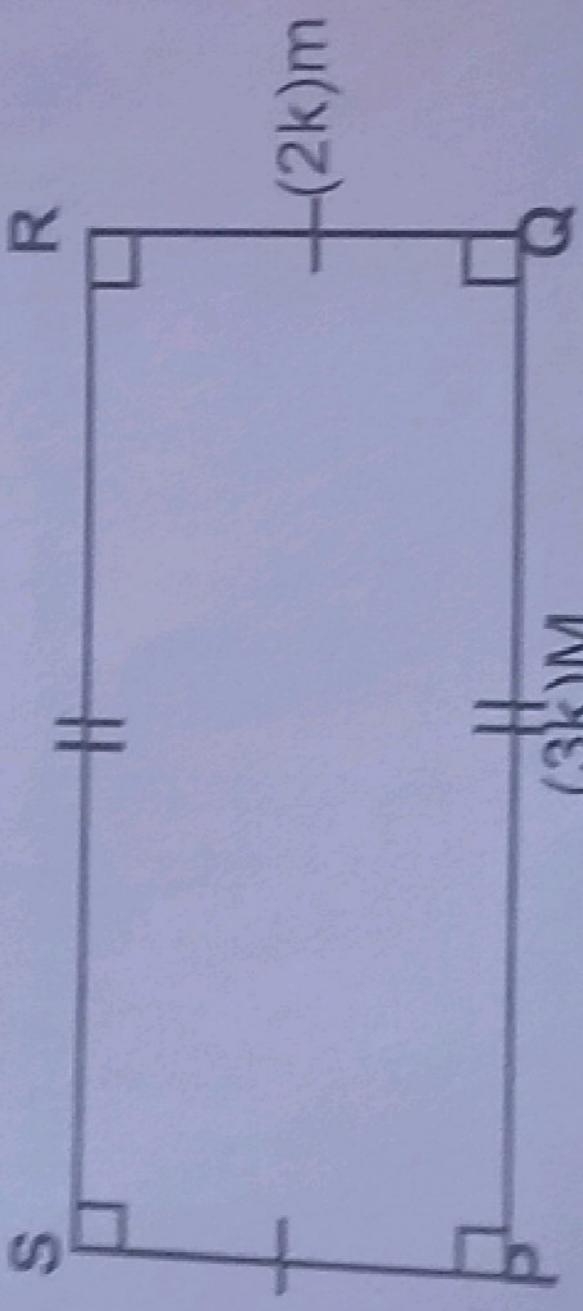
30. Anne, Belinda and Christine shared 65 mangoes. Anne got 3 times as much as Belinda and Christine got 5 mangoes more than Belinda. Find the number of mangoes each person got. (05 marks)



31. a) Peter slept for $8\frac{3}{4}$ hours and woke up at 5:35a.m. At what time did he start sleeping? (02 marks)

(b) A motorist covered a distance of 25 metres in only one second. Work out the distance he would cover in one hour. (02 marks)

32. The perimeter of the rectangular garden below is 60M.



(a) Find the value of k. (02 marks)

(b) Calculate the area of the garden. (03 marks)